UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

January 2, 2013

REPLY TO THE ATTENTION OF:

E-19J

Richard Marquis, Acting Division Administrator
Federal Highway Administration - Indiana Division
575 North Pennsylvania St., Room 254
Indianapolis, IN 46204

Michael B. Cline, Commissioner
Indiana Department of Transportation
100 North Senate Ave., Room N642
Indianapolis, Indiana 46204

RE: I-69 Evansville to Indianapolis, Tier 2 Draft Environmental Impact Statement (DEIS) for Section 5: Bloomington to Martinsville, Indiana. CEQ No. 20120340

Dear Mr. Marquis and Mr. Cline:

The U.S. Environmental Protection Agency Region 5 (EPA) reviewed the Federal Highway Administration (FHWA)/Indiana Department of Transportation (INDOT) I-69 Tier 2 Section 5 Draft Environmental Impact Statement (DEIS). Our review and comments are provided pursuant to Section 102(2)(C) of the National Environmental Policy Act (NEPA), and Section 309 of the Clean Air Act.

The Section 5 Tier 2 DEIS is the fifth of six expected Tier 2 DEISs that EPA has reviewed or will review for the 142-mile-long I-69 Indianapolis to Evansville Project. Section 5 extends approximately 22 miles from State Road (SR) 37 south of Bloomington in Monroe County to SR 39 in Morgan County. The Section 5 project is an upgrade of existing SR 37 to interstate standards substantially utilizing existing multi-lane SR 37 right-of-way.

The No-build is identified and five build alternatives (Alternatives 4, 5, 6, 7 and 8) undergo detailed analysis in the DEIS. Alternative 8 is identified as the DEIS-Preferred Alternative. Alternative 8 is substantially a hybrid comprised of various components of Alternatives 4, 5, 6 and 7. Interchanges are proposed at Fullerton Pike, Tapp Road/SR45/2nd Street, SR 48/3rd Street, SR 46, Walnut Street, Sample Road, and Liberty Church Road. Currently two options have been retained for the Walnut Street Interchange: Option A (full interchange) or Option B (existing partial interchange). EPA prefers Option B because it minimizes wetland, stream and associated floodplain impacts. Overpasses would be located at Rockport Road, Vernal Pike, Arlington

Road, Kinser Pike, and Chambers Pike. Local access roads and new construction to existing local roads would be provided in portions of the Section 5 corridor where driveways and other roads currently connect to existing SR 37.

Based on our review of the information in the DEIS, we believe there may be feasible modifications to Alternative 8 that have not been fully identified, assessed and/or discussed in the DEIS that may reduce impacts to resources of concern. These include providing an "emergency only" direct access to I-69 from the Hoosier Energy facility in order to reduce the extent of the proposed eastside access in order to further reduce water resource impacts in this portion (subsection 5F) of the Section 5 corridor.

EPA rates the DEIS preferred alternative as "EC-2, Environmental Concerns-Insufficient Information." In order to fully protect the environment, there may be additional changes to Alternative 8 that have not been fully identified or assessed in the DEIS; additional information, data and analyses, and discussion should be included in the Final EIS (FEIS). An explanation of our rating system can be found in the enclosure entitled, "Summary of Rating Definitions and Follow-Up Actions." Our detailed comments and recommendations regarding the DEIS and the I-69 Section 5 project are enclosed. Our enclosed comments also include EPA's technical review of the Draft Karst Feature and Groundwater Flow Investigation Report (unredacted version) for Section 5.

The Section 5 DEIS incorporates many of the recommendations we made on the I-69 Section 4 DEIS to help inform better decision making as this project moves forward. For example, we commend the inclusion of *Tables 5.21.3 and 7-2: Best Management Practices (BMPs) in Karst Terrain* in the Section 5 DEIS, similar to what EPA recommended for Section 4. The tables list various karst features, BMPs that may be implemented, and a numerical cross-reference to applicable INDOT Standard Specifications. The tables could serve as the starting point from which INDOT, the Karst Memorandum of Understanding (MOU) resource agencies, and contractors may consider for implementation in order to help protect the environment and public safety.

EPA Class V Permits

There will most likely be several sinkholes that would be modified for stormwater drainage for Section 5, which would be considered to be Class V wells under the Safe Drinking Water Act's Underground Injection Control (UIC) program. The DEIS correctly identifies that EPA is the agency that must be notified and would need to approve any Class V well construction. For additional information regarding EPA Class V permits and UIC program, contact Ross Micham of EPA's UIC Branch at 312/886-4237 or at micham.ross@epa.gov.

Superfund Sites

The DEIS addresses the highway drainage near the Bennett's Dump and Lemon Lane Landfill Superfund sites as EPA requested. Adding more drainage flow into the groundwater basins would negatively impact the site remedies for both Bennett's Dump and the Lemon Lane Landfill. The EPA Superfund program supports the mitigations in the preferred alternative to control drainage near the Bennett's Dump and the Lemon Lane Landfill. The EPA Superfund

program requests that the final Section 5 plans be made available to EPA and IDEM for review to ensure the mitigations currently proposed are addressed. The EPA Superfund contact is Thomas Alcamo, Remedial Project Manager. Tom may be reached by calling 312/886-7278 or by email at Alcamo.thomas@epa.gov.

Air Quality - Conformity

The document is up-to-date and correct in terms of air quality conformity requirements and the consultation that has taken place, to date, on PM2.5 hot spot requirements. We look forward to continued consultation. After December 31, 2012, Tony Maietta is EPA Region 5 Air and Radiation Division (ARD) contact for this project and may be reached by calling 312/353-8777 or by email at maietta.anthony@epa.gov.

Surface Water Resources

We understand that the U.S. Army Corps of Engineers (Corps) Clean Water Act (CWA), Section 404 permitting process for Section 5 is likely to take place after FHWA issues the Record of Decision (ROD). EPA requests that FHWA/INDOT continue to coordinate all compensatory mitigation for impacts to aquatic resources with EPA throughout the NEPA process and the CWA Section 401 water quality certification/404 permitting processes. Our participation in the July 2012 site tour of potential mitigation sites for I-69 Section 5 was beneficial and productive, and we would like that to continue. The EPA Watersheds and Wetlands Branch contact is Melissa Blankenship. Melissa may be reached by calling 312/886-6833 or by email at blankenship.melissa@epa.gov.

Mitigation

Compensation mitigation identified in the DEIS has not advanced much from the Tier 1 documentation. We recommend the FEIS include an updated discussion of the efforts made to date for identifying compensation mitigation for Section 5 and include an up-to-date preliminary compensation mitigation plan for Section 5.

Summary of Overall 1-69 (Indianapolis to Evansville) Project Impacts

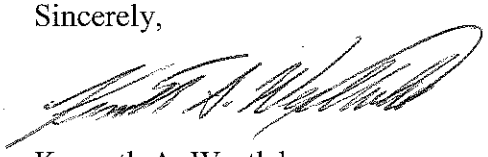
We request the Section 5 FEIS include the updated running tally of the impacts to resources of concern of the overall I-69 Indianapolis to Evansville project. In the I-69 NEPA documents for Sections 2 and 3, this tally was found in Appendix ZZ and for Section 4 in Appendix KK. We continue to recommend that stream impacts and cumulative impacts to all resources of concern be added to the running tally. The DEIS indicates that a precise tally of cumulative impacts is not readily attainable. EPA suggests that at least an estimate of cumulative impacts is attainable and requests that they be included in the FEIS running tally of impacts.

I-69 Mitigation Tracking and Annual Mitigation Tracking Report

The DEIS includes a brief explanation of the I-69 mitigation tracking system that INDOT is using to insure that the overall I-69 project's impacts are identified and all Tier 1 and Tier 2 NEPA mitigation measures as well as regulatory mitigation requirements are successfully implemented. To date, EPA has received two I-69 mitigation tracking annual reports dated, February 22, 2010 and November 17, 2011. EPA requests two hard copies and 2 DVDs of the third I-69 mitigation tracking annual report as soon as it is available.

If you have any questions about EPA's comments, please contact Virginia Laszewski at 312-886-7501 or email her at laszewski.virginia@epa.gov. When the Section 5 FEIS is available, please send us 3 hard copies and 7 CDs, for our review.

Sincerely,



Kenneth A. Westlake
Chief, NEPA Implementation Section
Office of Enforcement and Compliance Assurance

Enclosures: 2

cc: U.S. Army Corps of Engineers – Louisville District, Attention: CELRL-OP-F, P.O. Box 59, Louisville, KY 40401-0059 (Greg McKay)
U.S. Army Corps of Engineers – Indianapolis Regulatory Office, 9799 Billings Road, Indianapolis, Indiana 46216-1055 (Debra Snyder)
U.S. Fish and Wildlife Service, Region 3, Bloomington Ecological Services Office, 620 S. Walker Street, Bloomington, IN 47403-2121 (Scott Pruitt/Robin McWilliams-Munson)
Indiana Department of Environmental Management, Office of Water Quality, Section 401 Water Quality Certification Program, 100 N. Senate Avenue, MC 65-40, Indianapolis, IN 46204-2251 (Randy Braun/Jason Randolph)
Indiana Department of Natural Resources, 402 W. Washington St., Rm W264, Indianapolis, IN 46204 (Matt Buffington)

**EPA Comments Concerning the I-69 Evansville to Indianapolis,
Tier 2 Draft Environmental Impact Statement
Section 5 – Bloomington to Martinsville, Indiana
CEQ No. 20120340**

EPA's Section 5 Tier 2 Draft Environmental Impact Statement (DEIS) detailed comments, for the most part, follow the Chapter/Sub-Chapter (Section) order found in the DEIS and include EPA's comments on the unredacted version of the - *I-69 Indianapolis to Evansville, Tier 2 Studies, Draft Karst Feature and Groundwater Flow Investigation Report, Section 5, SR 37 south of Bloomington to SR 39 (dated October 2012)* (Draft Karst Report). Finally we provide several pages of DEIS errata for your consideration when preparing the Final EIS (FEIS).

Chapter - SUMMARY

S.7.1 Comparison of Alternative Impacts - Section 5 is divided into six distinct geographic (south to north) subsections (5A to 5F) to aid in evaluating and comparing between the five Section 5 build alternatives (Alternatives 4, 5, 6, 7 and 8). The DEIS Summary chapter presents a table of impacts by alternative for each geographic subsection (Tables S-3 through S-8) and *Table S-9: Alternative Impacts Summary by Alternatives*. These tables describe impacts for such categories as: 1) costs of right-of-way acres, 2) number of displacements of residents/businesses, 3) number of noise receptors, 4) determinations for Section 4(f) of the Transportation Act and Section 106 of the National Historic Preservation Act, 5) wetland acres, 6) stream linear feet, 7) floodplain acres, 8) number of karst features and acres, 9) farmland acres, 10) managed land acres, 11) upland forest acres, and 12) core forest acres. However, these tables do not identify or present impacts to wildlife in general, federally or state- listed species, hazardous waste sites, and wellhead protection areas. This additional information would provide a more complete picture of the type and amount of resources impacted and costs associated with each subsection and each build alternative.

> Recommendation: We recommend the above-discussed tables and all Section 5 alternatives impacts summary tables be supplemented for the Final EIS (FEIS) to include impacts information for wildlife, federal and state-listed species, hazardous waste sites and wellhead protection areas.

S.11 Mitigation - The last full paragraph on page S-69 states, "*Mitigation measures for the Indiana bat include restrictions on tree cutting between April 1 and September 30 . . .*" Page S-67 states, "*No trees with a diameter of three or more inches will be removed between April 1 and November 15 within the Winter Action Area and April 1 and September 30 within the Summer Action Area to avoid any direct take of Indiana bats.*"

> Recommendation: We recommend the statement on page S-69 be corrected to read "*Mitigation measures for the Indiana bat include restrictions on tree cutting starting on April 1 and continuing through September 30 or November 15 in the Summer or Winter Action Areas, respectively. . . .* " *or simply ". . . during defined periods . . .*"

Chapter 1.0 – BACKGROUND

1.3 Project Location and Description. Karst geology and associated karst features (e.g., sink holes, caves, etc.) in the Section 5 Study Area are important considerations when determining, in part, locations for and the design of proposed interchanges and access roads, and the handling and treatment of stormwater runoff during project construction and operation.

> **Recommendation:** We recommend the FEIS incorporate the three karst regions in Section 5 into the "Geologic Setting" discussion in Sub-Chapter 1.3. Additionally, consider adding a "Geologic Setting" section and briefly describe the three karst regions or add them under the "Physiography Setting" section.

Chapter 3 – ALTERNATIVES

3.5 Preferred Alternative. *Table 3-16: Section 5 – Potential Impacts of the Alternatives* includes select resource impacts for Alternatives 4, 5, 6, 7 and 8. Cave impacts are not included in this table. In previous I-69 Indianapolis to Evansville project studies, as well as other transportation projects potentially affecting karst, caves garner a lot of attention.

> **Recommendation:** Please add the potential cave impacts of the Section 5 alternatives to Table 3-16.

Chapter 4.0 - AFFECTED ENVIRONMENT

4.2 Human Environment

4.2.2. Physical Characteristics

4.2.2.5 Community Facilities and Services - Bicycle and Pedestrian Trails (page 4.2-51). The DEIS identifies that the local bicycle clubs would like to see more and safer crossing points at the interchanges and at grade separations for the I-69 project.

> Recommendation: We recommend that INDOT continue to consult with the local bicycle clubs and the FEIS include an INDOT-required commitment that pedestrian/bicycle lanes be incorporated into select interchanges and grade separations identified as a result of this consultation.

4.2.2.5 Community Facilities and Services - Wastewater (page 4.2-53). The DEIS identifies that only the City of Bloomington, the Town of Ellettsville, and the City of Martinsville provide sanitary wastewater services. The remainder of landowners in Monroe and Morgan Counties use septic systems.

> Recommendation: The FEIS should disclose whether or not Monroe and Morgan Counties have adopted "Enhanced Septic System Regulations" as recommended in the I-69 Planning Toolbox for those areas with karst geology.

4.3 Natural Environment

4.3.1 Geology

4.3.1.7 Karst and Springs (page 4.3-9). Paragraph 2 of this section reads, *"Groundwater in karst terrain is contaminated easily because surface waters are channeled rapidly into the*

subsurface via insurgence features – a surface feature that directs surface water into the karst groundwater system (i.e. sinkholes, swallet, losing and sinking streams)."

Recommendation: Please revise this sentence, or add clarification, so the public may readily understand the concepts of insurgence, sinkholes, swallets, and losing and sinking streams without having to refer to the glossary when the terms are first used. Please add "insurgence features" to the glossary if this phrase is retained.

Paragraph 3 of this section states "*Unlined retention or detention structures . . .*"

Recommendation: To ensure readability for the public, please either explain the difference between these structures (indefinite vs. temporary holding) and add these terms to the glossary, or replace this phrase with "Unlined runoff water holding structures . . ." or something similar.

4.3.2 Water Resources
4.3.2.1 Groundwater Resources
Private Wells (page 4.3-13). The DEIS is not clear here whether FHWA and INDOT are aware that private well inventory has been conducted in connection with the Lemon Lane Landfill and the Bennett's Dump Landfill by CBS Corporation, and that those records are public and available.

Recommendation: We recommend the FEIS acknowledge that FHWA and INDOT are aware that private well inventory has been conducted in connection with the Lemon Lane Landfill and the Bennett's Dump Landfill by CBS Corporation, and that those records are public and available.

Surface Water Quality (page 4.3-20). Please note that significant remediation has occurred at the Lemon Lane Landfill Superfund site. These include PCB-contaminated sediment removal in streams and associated stream banks in the Swallowhole and Quarry Springs area and upgrades to the treatment plant at the head of Clear Creek/ Illinois Central Spring (ILCS) to treat up to 6000 gpm of storm flows.

Recommendation: We recommend FHWA/INDOT include this information in the FEIS.

4.5 Hazardous Materials
4.5.2 Potential Hazardous Waste Sites
Bennett Stone Quarry (aka Bennett's Dump) (Page 4.5-10). Some of the information on this page regarding Bennett Stone Quarry is incorrect or needs to be updated.

Recommendation: We recommend this section on Bennett's Stone Quarry be corrected and supplemented with the following information: 1) The site is on one parcel owned by Star Quarry Inc. None of the site is on adjacent property parcels. 2) Five springs that have low levels of PCB contamination have been identified on the Bennett's Dump site: Mound Spring, Middle Spring, Mid-North Spring, North Spring, and Rusty Spring. 3) Slurry wall installation is no longer under consideration at this Superfund site.

In the discussion of the Lemon Lane Landfill on page 4.5-9, the remedial actions are described and there is brief information included on their effectiveness. However, on page 4.5-10, while the remedial measures at Bennett Stone Quarry are described, there is no discussion of how effective they have been. This information is critical to painting a picture of the current status of the affected environment as either a contaminated area, an area that used to be contaminated but is no more, or an area whose ongoing remediation is not yet completed.

> Recommendation: Please add parallel content to the discussion of remediation at Bennett Stone Quarry in the FEIS. Also, briefly discuss the effectiveness of these actions to date in preventing PCB discharges to Stout Creek.

Chapter 5.0 – ENVIRONEMTNAL CONSEQUENCES
5.1 Introduction and Methodology
5.1.3 Phased Construction. The DEIS (p. 5.1-12) states, *"Based upon its practices in Sections 1 through 4, INDOT will construct Section 5 in segments smaller than the overall 21 miles. However, unlike the previous Section 1 – 4, which were generally built in sequential order from start to finish, segments in Section 5 will be prioritized for construction based on several factors, including but not limited to: operational and safety needs at a particular location access for local residences and businesses with current direct access to SR 37, condition of the Existing SR 37 pavement, timing of planned construction of the local road network adjacent to the project and acquisition of necessary right-of-way in particular areas slated for construction at a given time."*

> Recommendation: The FEIS should identify each Section 5 construction segment/component and identify/discuss its construction priority status. The FEIS should include a table that lists each construction segment/component in construction priority order and include proposed start and end dates for each segment's construction. The FEIS should also identify the proposed completion date for the entire Section 5 project.

5.8 Environmental Justice
5.8.4 Summary. The Summary states, *"[a]fter completing further environmental justice review for Tier 2 Section 5, it was determined that none of the alternatives for Section 5 would have a disproportionately high or adverse effect on minority or low-income populations in the Section 5 Study Area."* However, a footnote found in Environmental Justice (EJ) Tables 5.8-9 through 5.8-12 discloses that *"[f]inal decisions regarding displacements will be made during design and right-of-way acquisition phases. Survey of individual households/businesses would be needed to identify if displacement will be borne by minority or low-income individuals."*

> Recommendation: Since it is unknown at this time which minority and/or low-income residences or businesses will be taken, we suggest it would be more accurate to say, *"there is a potential for disproportionate impacts to minority and/or low-income populations due to relocations."* We also recommend the FEIS identify potential mitigation measures that could be implemented to off-set the impacts, if applicable.

The DEIS 8.5.4 Summary (page 5.8-22) provides the following quote: *"In its comment letter on the Tier 1 Draft Environmental Impact Statement (DEIS), the United States Environmental*

Protection Agency (USEPA) concurred 'the initial environmental review shows that none of the alternatives would have a disproportionately high and adverse effect on minority and low-income populations in the Study Area.'"

> Recommendation: The FEIS should either remove the above mentioned EPA quote from the 8.5.4 Summary or the FEIS should better explain why EPA's environmental justice statement regarding the I-69 Tier 1 DEIS is applicable to a more detailed Tier 2 Section 5 environmental justice analysis.

5.9 Air quality

Air Quality Conformity: The document is up-to-date and correct in terms of air quality conformity requirements and the consultation that has taken place on PM2.5 hot spot requirements.

As stated in the documentation (page 5.9-9), we had consultation discussions with FHWA/INDOT/Consultants about the possible need for PM2.5 hot spot analyses for intersections in Morgan County, which is nonattainment for annual PM2.5. At the time of the consultation, specific traffic data was not available for the intersections. Further consultation is required to determine which intersections are projects of air quality concern.

After December 20, 2012, all hot spot analyses must use the MOVES emissions model and quantitative analysis methodology per 75 Federal Register 79379. Projects that are of air quality concern will need a hot spot analysis consistent with EPA guidance document *Transportation Conformity Guidance for Quantitative Hot-spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas.* The guidance document can be found at http://www.epa.gov/otaq/stateresources/transconf/policy.htm#project.

FHWA requires hot spot analyses to be completed prior to the ROD.

> Recommendation: EPA recommends the FEIS include the FHWA conformity determination, discussion and supporting documentation.

After December 31, 2012, Tony Maietta is EPA Region 5 Air and Radiation Division (ARD) contact for this project and may be reached by calling 312/353-8777 or by email at maietta.anthony@epa.gov.

Mobile Source Air Toxics (MSAT) (pages 5.9-14 – 5.9-15). A qualitative assessment of mobile source air toxics (MSAT) is provided in the DEIS. FHWA/INDOT *"acknowledge that some of the project alternatives may result in increased exposure to MSAT emissions in certain locations, although the concentrations and duration of exposures are uncertain, and because of this uncertainty, the health effects from these emissions cannot be estimated."* The Bloomington urban/suburban area of Section 5 has a substantially higher population than other I-69 sections assessed so far. Exposure to diesel exhaust by construction workers and/or individuals that work, live or recreate near construction sites can have serious health implications.

> Recommendation: Because MSATs can cause adverse health impacts, especially to

vulnerable populations, such as children, the elderly, and those with existing respiratory health issues, EPA recommends the FEIS identify potential mitigation measures to decrease the exposure of these populations to increases in MSATs emissions during construction and operation of the proposed project. Such measures may include, but should not be limited to, strategies to reduce diesel emissions, such as project construction contracts that require the use of equipment with clean diesel engines and the use of clean diesel fuels, and limits on the length of time equipment is allowed to idle when not in active use (EPA recommends idling not exceed 5 minutes).

Greenhouse Gases/Climate Change (page 5.9-7): One brief paragraph in the Section 5 DEIS is devoted to addressing greenhouse gas emissions associated with the project and climate change. The DEIS indicates that FHWA does not believe it is informative at this point to consider greenhouse gas emissions in an EIS. The DEIS goes on to identify that FHWA is actively engaged in activities with the USDOT Center for Climate Change to develop strategies to reduce transportation's contributions to greenhouse gases in particular CO2 emissions, and to assess the risks to transportation systems and services from climate change.

Recommendation: We recommend that the FEIS estimate the project's anticipated GHG emissions and steps to minimize those emissions. We also recommend the FEIS identify and discuss any anticipated effects of climate change on the project. For example, discuss any effects that predicted increases in the number and/or intensity of precipitation events due to climate change may have on sizing bridge spans, culvert openings, and stormwater management measures in order to accommodate such events and ensure project longevity, public health, and safety.

5.16 Hazardous Waste Sites

5.16.3.2 Superfund Sites

The last full sentence in the last paragraph on page 5.16-4 states, *"The combined treatment systems are expected to treat nearly 100% of the ILCS spring water and to treat 99.9% of the PCB mass from the receiving stream."* The preceding text says that the treatment plant captures water discharging from the ILCS and removes PCBs before the spring water enters surface water. There is no mention of surface water from the receiving stream being treated. Should the sentence quoted above read ". . . and to prevent 99.9% of the PCB mass from entering the receiving stream"?

Recommendation: Please revise the text discussed above to better clarify the intended meaning. Note that the same text appears on page 5.21-23, paragraph 2, and should be revised in that location as well.

On page 5.16-5, at the end of the third paragraph, the DEIS states, *"updates from the upcoming release of the 5-year review will be included."* The 5-year review was released in August 2012, likely after the content of this Section 5 DEIS was finalized.

Recommendation: Please update this discussion in the FEIS to include the findings of this review.

5.16.5 Summary (Hazardous Waste Sites)
Table 5.16-1 Summary of Hazardous Waste Sites summarizes suggested mitigation measures, which include: 1) for the ILCS as impacted by the Lemon Lane Landfill, *"prevent highway drainage from entering ILCS recharge/treatment area; divert west to Stout Creek;"* and 2) for the Bennett Stone Quarry, *"prevent highway drainage from entering Bennett groundwater area by diverting either upstream or downstream of site to Stout Creek."*

The Tier 2 DEIS addresses the highway drainage near the Bennett's Dump and Lemon Lane Landfill Superfund sites. Adding additional drainage into the groundwater basins would negatively impact the site remedies for both Bennett's Dump and the Lemon Lane Landfill. The EPA Superfund program supports the mitigations in the preferred alternative to control drainage near the Bennett's Dump and the Lemon Lane Landfill. The EPA Superfund program requests that the final Section 5 plans be made available to EPA and IDEM for review to ensure the mitigations proposed by Tier 2 DEIS are addressed. The EPA Superfund contact is Thomas Alcamo, Remedial Project Manager. Tom may be reached by calling 312/886-7278 or by email at Alcamo.thomas@epa.gov.

> Recommendation: The EPA Superfund program requests that the final Section 5 plans be made available to EPA and IDEM for review to ensure the mitigations proposed by Tier 2 Draft Environmental Impact Statement are addressed.

EPA supports the general concept of diverting additional highway runoff from entering the Wedge Quarry complex where the passive drain has been installed to lower groundwater levels at the Bennett's Dump site. However, it is not apparent how such a diversion can be constructed. One possibility may be the diversion of runoff into Stout's Creek upstream of the passive drain and the Bennett's Dump site.

> Recommendation: We recommend the FEIS discuss the feasibility of diverting runoff into Stout's Creek upstream of the passive drain and the Bennett's Dump site. In addition, potential impacts to Stout's Creek from such a diversion should be discussed and potential mitigation measures to avoid or reduce impacts to Stout Creek identified in the FEIS.

5.17 Bald Eagles, Federal and State Threatened and Endangered Species
5.17.3.3 State-Listed Species
This section provides a species-by-species description of each state-listed species, their habitat, and potential impacts. DEIS Section 11.4 - Agency Review and Coordination only mentions the Indiana Department of Natural Resources (IDNR) input to this part of the assessment as related to the box turtle.

> Recommendation: For the FEIS, please update this section to also summarize IDNR concurrence or revision recommendations on the DEIS impact analysis for state-listed species, including the cave-dwelling invertebrates for which considerable survey efforts were made.

5.19 Water Resources
5.19.2 Surface Waters

Seven intermittent stream segments and twelve ephemeral steam segments are identified as Class III Primary Headwater Habitat (PHWH) with the highest quality and potential to support a diverse array of flora/fauna (Table 5.19-13 Potential Stream Impacts and Potential Stream Relocation Lengths by Alternative, pages 5.19-53 to 5.19-73). According to the *Field Evaluation Manual for Ohio's Primary Headwater Habitat Streams 2012*, Class III PHWH streams are perennial streams in which the prevailing flow and temperature conditions are influenced by groundwater. They exhibit moderately diverse to highly diverse communities of cold water adapted native fauna.[1] The DEIS does not explain how application of Ohio's methodology translates to Indiana's headwater streams.

> Recommendation: We recommend the FEIS explain how the application of Ohio's methodology translates to Indiana's headwater streams.

All practicable alternatives must be explored to avoid impacts to natural streams and their riparian corridors to the maximum extent possible in accordance with the Clean Water Act (CWA) 404 (b)(1) Guidelines. If impacts are absolutely unavoidable, every effort must be made to maintain and/or replicate the quality of the resource that is impacted.

INDOT's analysis considers a riparian zone to be any forested area that is adjacent to the stream within 100 feet on either side of the stream centerline. Rationale needs to be provided regarding why the riparian zone is restricted to 100 feet on either side. Further, the text suggests that it is only considered a riparian zone if it is forested.

> Recommendation: We recommend the FEIS provide an explanation as to why the riparian zone is restricted to 100 feet. In addition, the FEIS should also clarify what constitutes a riparian zone.

According to the DEIS, INDOT commits to continue to coordinate with both USACE and IDEM during the CWA Section 401 and CWA Section 404 permitting processes regarding the proposed stream mitigation (page 7-34) and throughout the development of the proposed mitigation sites that will be offered for compensatory mitigation (page 5.19-79). EPA strongly recommends that INDOT continue to coordinate all compensatory mitigation for impacts to aquatic resources with USEPA throughout this process and the Section 401/404 permitting process. Our participation in the July 2012 site tour of potential mitigation sites for I-69 Section 5 was beneficial and productive, and we would like that to continue.

> Recommendation: EPA requests that FHWA/INDOT continue to coordinate all compensatory mitigation for impacts to aquatic resources with EPA throughout the NEPA process and the CWA Section 401 water quality certification and Section 404 permitting processes. EPA recommends the FEIS Summary and Chapter 7 - Mitigation include a commitment by INDOT to include EPA throughout the development of the Section 5 proposed mitigation sites for impacts to aquatic resources.

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[1] http://www.epa.ohio.gov/portals/35/wqs/headwaters/PHWHManual_2012.pdf

5.19.2.4 Mitigation – Wetlands, Open Water, Rivers and Streams (pages 5.19-82 to 5.19-81). The DEIS does not identify the specific measures that INDOT will use to ensure that the applicable standard specifications and/or special provisions will be successfully implemented by the design and/or construction contractor in a timely fashion. Such measures might include, but need not be limited to, requiring an independent environmental monitor with authority to stop construction if adequate sediment and erosion control measures are not being implemented and properly maintained. INDOT construction contracts could include a provision to levy substantial monetary fines when a contractor fails to properly implement appropriate construction BMPs to protect surface and ground water quality. We are aware that INDOT established such accountability measures for its contractors on the Louisville Bridges project.

> Recommendation: The FEIS should identify and discuss the specific measures INDOT will take to help ensure that their construction contractors follow their construction standard specification and/or special provisions.

5.19.3.3 Analysis

Groundwater Quality (pages 5.19-88 and 5.19-89, last sentence): In general, EPA appreciates that the following statement is made here and elsewhere in the DEIS: *"Per USEPA written comments on the Section 4 DEIS, a firm commitment has been made that if active groundwater flow paths are discovered, measures will be taken to perpetuate the flow and protect water quality."* However, please heed the following recommendation.

> Recommendation: EPA requests that INDOT commit to consulting with the EPA Superfund Project Manager prior to making any decisions regarding I-69 project manipulation of groundwater flow paths that might impact the Lemon Lane and/or Bennetts Dump superfund sites.

5.21 Karst Impacts

There will most likely be several sinkholes that would be modified for stormwater drainage for Section 5, which would be considered to be Class V wells under the Safe Drinking Water Act's Underground Injection Control (UIC) program. The DEIS correctly identifies that EPA is the agency that must be notified and would need to approve any Class V well construction. However, the DEIS does not specifically identify the karst features that could be considered Class V wells.

> Recommendation: We recommend the FEIS identify the types of karst feature/s (e.g., sinkholes) that could be expected to be encountered within Section 5 that if modified for stormwater drainage would be considered Class V Injection wells.

5.21.3.4 Karst Impacts by Alternative

The DEIS states *"For the purposes of the following discussions, the term "impact" means that portions of a karst feature are located within the rights-of-way of the Section 5 alternatives."* The text and table that precede this section reference studies and expert determinations related to the hydrologic connection of karst features and areas outside of the Section 5 corridor, as summarized in Table 5.21-1 under the column *"Relevant Karst **Outside of Section 5*

Corridor." However, the line quoted above seems to indicate that only features within the corridor, approximately 1/3 of the total relevant karst area, are considered when comparing impacts among the alternatives.

> Recommendation: Please correct this description of the approach to impact analysis (note that the "Relevant Karst Area" rows in Table 5.21-2 provide more points of comparison than are indicated in the quoted sentence).

Paragraph 2 of this section states *"Existing SR 37 was constructed in the 1970's and includes right-of-way that accounts for at least more than 50% of the karst impacts included in the five alternatives."*

> Recommendation: Please clarify whether SR 37 accounts for at least or more than 50% of the impacts.

5.21.3.7 Potential Impacts upon Threatened and Endangered Species and Cave Biota. The DEIS states (page 5.21-29), *"The fauna identified in the 2005 biological survey . . . have become conditioned to the residential and transportation land use after more than 40 years of influence. Therefore, the project should not result in such changes of a sufficient magnitude to adversely affect the identified state-listed species."* Similar statements appear in the impact assessment for the troglobitic crayfish (*Orconectes inermis testii*), a state-listed rare species, in Section 5.17 (page 5.17-25). However, this conclusion is not adequately supported by either observation or analysis, and the pollutant loading analysis (described below) seems to contradict the conclusion.

On the page after this conclusion is presented, Section 5.21.3.8 (page 5.21-30) addresses the predicted pollutant loading during construction to the karst system, by predicting that a past pattern in the same area would be repeated: *"there were elevated levels of total suspended solids (TSS) and total recoverable metals (TRM) for arsenic, copper, lead, and zinc to the subsurface associated with the during-construction activities for the SR 37 project. These levels returned to pre-construction conditions about two years after construction. This pattern is anticipated for the I-69 construction."* Neither Section 5.21 nor Appendix Y – Draft Karst Report (Section 3.6.1, where this study is described in slightly more detail) state how high these elevated concentrations were during the SR 37 project's construction phase, providing no quantitative basis for the conclusion presented.

Moreover, the analysis in Appendix L of the Draft Karst Report (DEIS Appendix Y), and summarized in Table 9 (page 80 of the Draft Karst Report), indicates that pollutant concentrations to which these aquatic cave biota are exposed would approximately double for lead and mercury, and would increase by approximately 50% for copper and cadmium, and by 10% for total nitrogen. That page very briefly states that the predicted concentrations *"exceed the applicable water quality standards."* Tables 2-1 through 2-8 in Appendix L of the Draft Karst Report (DEIS Appendix Y) clearly show that both the current and predicted concentrations of these pollutants exceed the acute and chronic aquatic criteria, as indicated by the cells shaded in red.

Recommendation: The quantitative details of the pollutant loading analysis and its implications for potential impact to cave-dwelling aquatic species should be discussed in Section 5.21.3.7. If the aquatic criteria referenced in Tables 2-1 through 2-8 in Appendix L of the Draft Karst Report (DEIS Appendix Y) are not clearly applicable to these species, then we recommend additional criteria or ecotoxicity data be identified and compared to the estimated concentrations.

5.21.4 Mitigation. We note that a firm commitment has been added for Section 5 that if active groundwater flow path are discovered, measures will be taken to perpetuate the flow and protect ground water quality, as EPA requested for Section 4.

We commend the inclusion of *Tables 5.21.3 and 7-2: Best Management Practices (BMPs) in Karst Terrain* in the Section 5 DEIS, similar to what EPA recommended for Section 4. The tables list various karst features, BMPs that may be implemented, and a numerical cross-reference to applicable INDOT Standard Specifications. The tables could serve as the starting point from which INDOT, the Karst Memorandum of Understanding (MOU) resource agencies, and contractors may consider BMPs for implementation in order to help protect the environment and public safety.

5.24 Indirect and Cumulative Impacts

The DEIS asserts that indirect impacts to water quality from wetland and stream impacts would be negligible because construction will be governed by the use of INDOT Standard Specifications, Special Provisions, and the IDEM Stormwater Quality Manual (pages 5.24-40, 5.24-42, and 5.19-80). However, the DEIS does not explain how this will be done. This needs to be fleshed out more in the FEIS as it is a critical to understanding of the potential cumulative and indirect impacts of this project.

Recommendation: The FEIS should include a discussion regarding how existing hydrology and ecological functions would be maintained in portions of wetlands and streams not directly impacted by construction activities within the ROW. As an example, in areas where portions of wetlands/wetland complexes would be directly impacted and the remainder of the wetland/wetland complex is directly abutting construction areas, explain how the functions and values of the avoided areas will be maintained.

Recommendation: In order to avoid and minimize indirect impacts to streams and wetlands/wetland complexes during construction and operation, we recommend FHWA/INDOT consider developing for inclusion in the FEIS/ROD, a BMPs/INDOT Standard Specifications/IDEM Stormwater Quality Manual table similar to DEIS *Table 7.2: Best Management Practices (BMPs) in Karst Terrain* (pages 7-56 through 7-59). The wetlands and streams table/s would list the various stream and wetland scenarios found in the Section 5 study area, identify the corresponding potential BMPs that could be undertaken to protect the wetland and/or stream from indirect impacts, provide the citation to the corresponding INDOT Standards Specification/s or page in the IDEM Stormwater Quality Manual where the BMP/s is/are found. This type of table would be a good starting point for INDOT/ IDEM/Contractors to consider when deciding which

BMPs to require/use during project construction in order to avoid and minimize indirect impacts to wetlands and streams in the Section 5 study area.

Chapter 6.0 – COMPARISION OF ALTERNATIVES

Eastern Access Road (Subsection 5D) – The DEIS is not clear why the entire length of the currently proposed eastern access road in subsection 5D is needed. Why does the eastern access road need to provide access to two (Walnut Street and Sample Road), instead of one proposed I-69 interchange area? We had previously requested that INDOT assess the feasibility of providing an emergency-only access to I-69 for Hoosier Energy in order to shorten the eastern access road in order to reduce impacts in Subsection 5D. The DEIS does not identify and assess an I-69 emergency-only direct access for Hoosier Energy and shortened eastern access road as a possible option.

Recommendation: In order to determine whether natural resources impacts can be further reduced, we recommend that INDOT/FHWA assess the feasibility of installing an emergency-use-only direct access to I-69 for Hoosier Energy in order to reduce the length of the eastern access road needed in Subsection 5D. This assessment, along with impacts information, should be included in the FEIS.

Walnut Street Interchange (Subsection 5D) - EPA finds the use of the existing partial interchange at Walnut Street (Alternative 8, Option B) preferable to construction of a fully directional interchange on new facilities (Alternative 8, Option A) because it would minimize impacts to wetlands, streams and associated floodplain areas. In addition, it is not clear if a partial interchange is a feasible interchange option here since FHWA has not yet determined whether approval would be given for a partial interchange at this location.

Recommendation: The FEIS should include FHWA's partial interchange determination for the Walnut Street Interchange.

Chapter 7 - MITIGATION and COMMITTMENTS

Compensation mitigation efforts for wetland, stream and forest impacts identified in the DEIS have not advanced much from the Tier 1 documentation. However, we are aware that additional work regarding potential compensation mitigation sites has taken place since Tier 1.

Recommendation: We recommend the FEIS include an up-dated discussion of the efforts made to date for identifying compensation migration for unavoidable impacts in Section 5 and include an up-to-date preliminary compensation mitigation plan for Section 5

7.3 Section 5 Mitigation Measures and Commitments

7.3.7 Hazardous Materials – Sites for Specific Measures (page 7-29):

The EPA Superfund program supports the mitigation measures in the preferred alternative to control drainage near the Bennett's Dump and the Lemon Lane Landfill. The EPA Superfund program requests that the final Section 5 plans be made available to EPA and IDEM for review to ensure the mitigations proposed by Tier 2 Draft Environmental Impact Statement are addressed. The EPA Superfund contact is Thomas Alcamo, Remedial Project Manager. Tom may be reached by calling 312/886-7278 or by email at Alcamo.thomas@epa.gov.

Recommendation: The EPA Superfund program requests that the final Section 5 plans be made available to EPA and IDEM for review to ensure the mitigations proposed by Tier 2 DEIS are addressed.

Section 7.3.4 Construction
#4 Air Quality (page 7-20) and #17 Equipment Maintenance (page 7-22):
The Bloomington urban/suburban area of Section 5 is a fairly populated I-69 section. Exposure to diesel exhaust by construction workers and/or individuals that work, live or recreate near construction sites can have serious health implications.

Recommendation: In order to protect air quality in the project area during construction, we recommend INDOT consider additional strategies to reduce diesel emissions, such as project construction contracts that require the use of equipment with clean diesel engines and the use of clean diesel fuels, and limits on the length of time equipment is allowed to idle when not in active use (EPA recommends idling not exceed 5 minutes).

11. Heavy Blasting (pages 7-21 and 7-22). The few measures identified here seem to address only caves with bat populations. It is possible that caves without bats could also be affected by blasting. Shouldn't there be some initial limits on peak particle velocity or minimum radius from the blast site to a cave location?

Recommendation: Please include a discussion in the FEIS of blasting limitations that have been used on other karst highway or building projects.

7.3.9 Wetland Impacts (pages 7-31 and 7-32), 7.3.12 Water Body Modifications (pages 7-34 to 7-36), and 7.3.14 Water Quality Impacts - (pages 7-38 and 7-39). EPA appreciates that FHWA/INDOT have to date coordinated on compensatory mitigation for impacts to aquatic resources.

Recommendation: EPA recommends the FEIS Summary and Chapter 7 - Mitigation include a commitment by INDOT to include EPA throughout the development of the Section 5 proposed mitigation sites for impacts to aquatic resources. We request that FHWA/INDOT coordinate with us throughout the NEPA process and the CWA Section 401 water quality certification and CWA Section 404 permitting process.

7.3.14 Water Quality Impacts (pages 7-38 and 7-39). The Headwater Habitat Evaluation Index (HHEI) is a relatively rapid habitat evaluation procedure. Similarly, the Qualitative Habitat Evaluation Index (QHEI) is a method for evaluating stream habitat quality. The QHEI and HHEI alone do not tell the full story about potential impacts to water quality. To achieve a more robust understanding of the baseline conditions of streams and potential water quality impacts resulting from impacts to the streams, biological and chemical data should be collected and analyzed along with the physical habitat data.

Recommendation: Please consider the recommendation in our September 13, 2012, letter providing comments on INDOT's Section 5 Draft Tour Summary that existing aquatic

resources located at potential compensatory mitigation sites be identified and assessed as early as possible in the process so that we may better understand the baseline conditions of these sites.

Recommendation: Hydrology studies should also be performed on the potential mitigation sites as recommended by IDEM during the July 2012 tour.

7.3.17 Karst. We commend the inclusion of *Tables 5.21.3 and 7-2: Best Management Practices (BMPs) in Karst Terrain* in the Section 5 DEIS. The tables list various karst features, BMPs that may be implemented, and a numerical cross-reference to applicable INDOT Standard Specifications. The tables could serve as the starting point from which INDOT, the Karst Memorandum of Understanding (MOU) resource agencies, and contractors may consider BMPs for implementation in order to help protect the environment and public safety.

EPA Technical Adequacy Review of the I-69 Evansville to Indianapolis Tier 2 Studies - DRAFT Karst Feature and Groundwater Flow Investigation Report, Section 5, SR 37 south of Bloomington to SR 39, Confidential Information, dated October 2012.

[Note: A redacted version of the Draft Karst Report is included in Appendix Y of the Section 5 DEIS.]

For the most part, the karst report is thorough and well presented. The Section 5 karst report addresses most of the comments EPA generated regarding the I-69 Section 4 karst report regarding the lack of defined mitigation alternatives and bias sampling. The graphics appear to present the field data and findings in a clear and concise manner. Our specific Draft Karst Report comments follow.

1.0 Introduction

On page 12, the report uses several specific geologic terms or adjectives when describing the limestone.

> Recommendation: Please add *micritic, pellatal, bioclastic, calcarenite,* and *calcareous* to the glossary as Geologic Terms.

1.5.2 Bloomington North and Simpson Chapel Karst

On page 13, the report states, *"[t]he loess was deposited during the Pleistocene Age (Gates, 1962) and is highly erodible and prone to the formation of soil pipes."*

> Recommendation: We recommend that the above statement regarding loess may be better stated as *". . . is highly erodible and subject to soil piping or soil migration."*

6.0 Recommendations

In Section 6.1, Best Management Practices, as well as in the **Executive Summary**, it is stated that *"Procedures to reduce the impacts to karst will be implemented in accordance with INDOT Standard Specifications and the 1993 Karst MOU . . . "* Unless BMPs have been adopted in the last year, there are no karst specific BMPs or mitigation alternatives in the INDOT Standard Specifications.

> Recommendation: We suggest amending the above statement as follows: *"Procedures to reduce the impacts to karst will be implemented in accordance with applicable but not karst specific INDOT Standard Specifications . . . "* [*" . . . and other BMPs identified in the Section 5 DEIS/FEIS/ROD and Draft/Final Karst Feature and Groundwater Flow Investigations Report and the 1993 Karst MOU . . . "*]

Appendix L - Pollutant Loading Estimate Tables and FHWA Methodology

Annual Pollutant Load Calculations - Appendix L of the karst report displays the modeling outputs for pollutant loading, and reproduces the pages from an FHWA training course where the modeling approach was provided. Limited to no information/discussion is presented in the DEIS regarding the validity, applicability and uncertainty of the modeling that was conducted for pollutant loading analysis in Appendix L.

Recommendation: Please provide information on the validation, applicability, and uncertainty of the modeling that was conducted for the pollutant loading analysis in Appendix L. A summary of this information should also be provided in DEIS/FEIS Section 5.21.3.8 Pollutant Loading Analysis. Please address the following:

- Validation: Has this model been found to predict pollutant loads from highway runoff reasonably well? Please summarize and cite, as appropriate, the results of validation studies.

- Applicability: This model was developed before the phase-out of leaded gasoline; does this have any effect on the results predicted for a 21st century scenario?

- Uncertainty: A discussion of the uncertainty in the results should also be provided, particularly in light of the cautions in the model documentation itself (starting on page 8-22 in Appendix L: 1) *"The procedure should be limited to non-winter periods,"* 2) *"Long dry periods and overlapping storms present predictive problems in determining the pre-storm surface load"* [consider in terms of recent years' recurring droughts], and 3) *"Construction activities are difficult to simulate unless monitoring data is [sic] available to determine K_I values."*

This additional information will provide a more solid basis for using these modeling results in impact assessment, mitigation planning, and decision-making.

I-69 Tier 2 Section 5 DEIS Errata

EPA's review of the Section 5 DEIS found that numerous erroneous referrals to Figures and/or Tables in the DEIS for specific information. This often made review of the information in the EIS confusing and needlessly time consuming. We identify some, but not all of this figure/table referral errata and general text errata, in our comments below.

> Recommendation: We recommend that FHWA/INDOT/Consultants carefully review the EIS and make sure that all FEIS referrals to figures/tables, and text are correct/accurate.

Table of Contents

Table of Contents (continued), Volume II – Appendices, Located on DVD, page xxi]. The heading (i.e., "List of Figures") for the list of Appendices on page xxi is incorrect.

> Recommendation: We recommend the FEIS re-title the heading as "List of Appendices."

Chapter 1 – Background

FIGURE 1-3: Tier 2 Section 5 Study Corridor (page 1-20). The figure's legend does not provide an icon that specifically identifies the Section 5 corridor. The legend provides an icon (yellow zig zag line) that identifies a Section 1 location. The geographic extent of the figure does not include the Section 1 Corridor area.

> Recommendation: We recommend the FEIS provide a corrected version of the legend for Figure 1-3.

Chapter 3 – Alternatives

3.1.4 Traffic Modeling (page 3-4): The last sentence here incorrectly states: "The *I-69 Corridor Model* documentation, which provides the technical documentation for the Tier 2 traffic forecasting methodology, is included as Appendix DD, *MOT, Queue Analysis*."

> Recommendation: We recommend the FEIS correctly identify the "The *I-69 Corridor Model* documentation, which provides the technical documentation for the Tier 2 traffic forecasting methodology, is included as Appendix GG, MOT, *Queue Analysis*."

3.2.1 Methodology (page 3-9, Step #5): The fifth step in FHWA/INDOT's consultant's alternatives methodology incorrectly implies that the preferred alternative identified in this DEIS has the blessings of the environmental resource and permitting agencies.

> Recommendation: Unless there is written correspondence up to the time that the DEIS was published that explicitly shows that one or more of the agencies agree with the DEIS identified preferred Alternative, then the FEIS must clarify that the DEIS identified preferred alternative is only FHWA's and/or INDOT's and/or FHWA/INDOT/Consultant's preferred alternative and not the resource and/or permitting agencies' preferred alternative.

3.3 Screening of Alternatives
The information depicted in Tables 3-7 and 3-8 is not explained in the Tables and the text is confusing. For example, please clarify what is meant by: "It should be noted that VMT increases to a much greater degree than VMT" (5th sentence, page 3-60).

Recommendation: We recommend that additional information be included in the above mentioned Tables in the FEIS so that the reader can interpret the information the tables are trying to convey.

Recommendation: We recommend the FEIS reconcile the VMT and VHT shown in 3.3.1.1 Congestion, Table 3-7 and Table 3-8 with numbers provided in the text in 3.3.1.3, Transportation Performance Measures Summary, Total Congested VMT and Total congested VHT (pages.3-62 and 3-63).

Table 3-9 Build Versus No-Build Safety Comparison (page 3-62).

Recommendation: We recommend the FEIS reconcile the difference in the numbers reported in Table 3-9 and the numbers provided in the text in 3.3.1.3 Transportation Performance Measures Summary, Safety (p.3-63).

Chapter 4 – Affected Environment
Section 4.2 – Human Environment (page 4.2-28, last sentence): Do you mean State Road (SR) 37 instead of SR 27?

Recommendation: We recommend the correct roadway be identified here in the FEIS.

Chapter 5 – Environmental Consequences
5.19 Water Quality Impacts
Page 5.19-34 of the DEIS states that Figure 5.19-2 shows the streams by type (perennial, intermittent, and ephemeral, location, and relationship to the alternatives in Section 5. However, Figure 5.19-2 Section 5 Streams (pages 5-19.106 through 5.19-119, sheets 1 to 14) makes no distinction between perennial, intermittent and ephemeral stream types.

Recommendation: We recommend that for the FEIS, either the text should be corrected or the figure/s that shows Section 5 Stream impacts should distinguish between perennial, intermittent and ephemeral stream locations in relation to the alternatives.

5.19.2.5 Summary (page 5.19-83, third to last sentence): Table 5.19-16 does not provide a summary of potential surface water resource impacts by alternative as stated here. Table 5.19-16 Potential Open Water Impacts (page 5.19-79) provides the proposed acres of mitigation for open water impacts for each alternative. Did you mean to refer to Table 5.19-18 Summary of Potential Impacts to Surface Waters by Alternative (page 5.19-85)?

Recommendation: We recommend the FEIS identify the correct table that provides the summary of potential surface water resource impacts by alternative.

5.24 Indirect Cumulative Impacts
This DEIS chapter includes numerous referrals to Figures and/or Tables elsewhere in the DEIS for specific information regarding waters wells, impaired streams, etc. that is erroneous. This makes review of the information in the EIS confusing and time consuming. We identify some, but not all of this figure/table referral errata, in our comments below.

> Recommendation: We recommend that FHWA/INDOT/Consultants carefully review the EIS and make sure that all FEIS referrals to figures/tables, etc. are correct/accurate.

5.24.2 Methodology (page 5.24-2): Please note that EPA, Region 5 did not develop a document in 2000 titled "The National Environmental Policy Act – Conducting Quality Cumulative Effects Analysis" as implied here. Perhaps you are referring to materials developed by Environmental Planning Strategies, Inc., for a training session Region 5 hosted regarding NEPA Document Review under Section 309 of the Clean Air Act with an emphasis on conducting quality cumulative effects analyses on August 8-10, 2000.

> Recommendation: We recommend the FEIS correct this resource listing to show that Environmental Planning Strategies, Inc. developed the training materials for the 2000 course hosted by EPA, Region 5 on August 8-10, 2012.

Karst (page 5.24-30): Figure 5.21-2 does not show the general locations of the identified karst features relative to Section 5 corridor as stated here in the last sentence of the first paragraph under Karst. Figure 5.21-2 Solutions Features Characteristic of Karst Terrain (p. 5.21-1).

> Recommendation: The error discussed above should be corrected for the FEIS.

Streams (page 5.24-42): Figure 5.19-4 does not show the location of impaired streams as stated here in the second to the 2nd to the last sentence of the first paragraph on this page. There is no Figure 5.19-4 in the DEIS. Do you mean Figure 5.19-3 (page 5.19-120)? In addition, Table 4.3-1 (page 4.3-36) does not list impaired waterbodies in the vicinity of Section 5 as stated in the last sentence of the first paragraph on page 5.24-42.

> Recommendation: We recommend the FEIS refer the reader to the correct figure and table in the FEIS that has the impaired streams information.

Karst (page.5.24-45): Table 5.21-3 is not the impacts table as stated here. It is the Best Management Practices in Karst Terrain table (p.5.24-35 to 38). Did you mean to refer the reader to Table 5.21-2: Potential Karst Features Impacts by Karst Area and Alternative, on page 5.21-22 of the DEIS?

> Recommendation: We recommend the FEIS refer the reader to the correct table in the FEIS that has the karst impacts for each alternative.

Water well locations (page 5.24-47: The next to last paragraph, second sentence on this page directs the reader to Figure 4.3-4 in Section 4.3 Natural Environment for a figure that shows

existing water well locations. DEIS Figure 4.3-4 Bedrock Geology (page 4.3-42), does not depict existing water well locations.

Recommendation: We recommend the FEIS direct the viewer to the appropriate figure that identifies the locations of water well locations.

Karst features (page 5.24-47): The first sentence of the last paragraph on this page directs the reader to Figure 5.21-2 (Section 5.21 Karst Impacts) for a depiction of the general locations of the identified karst features relative to the Section 5 corridor. Figure 5.21-2 Solution Features Characteristic of Karst Terrain (page 5.21-1) does not depict the general locations of the identified karst features relative to the Section 5 corridor. Did you mean figure 5.21-3 Location of Section 5 Karst Areas (p. 5.21-44) and/or Figure 4.3-5 Karst Features and Springs (page 4.3-44)?

Recommendation: We recommend the FEIS direct the viewer to the appropriate figure that identifies the location of karst features relative to the Section 5 corridor.

SUMMARY OF RATING DEFINITIONS AND FOLLOW UP ACTION

Environmental Impact of the Action

LO-Lack of Objections
The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC-Environmental Concerns
The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impacts. EPA would like to work with the lead agency to reduce these impacts.

EO-Environmental Objections
The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU-Environmentally Unsatisfactory
The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

Adequacy of the Impact Statement

Category 1-Adequate
The EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alterative and those of the alternatives reasonably available to the project or action. No further analysis or data collecting is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2-Insufficient Information
The draft EIS does not contain sufficient information for the EPA to fully assess the environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3-Inadequate
EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640 Policy and Procedures for the Review of the Federal Actions Impacting the Environment